tains, &c. In March, 1855, visiting Rome, he made sketches with the large refractor of the Observatory of the Collegio Romano, and in the following month delineated many of the lunar landscapes with the telescopes at the Observatory of Naples. In December, 1858, he entered upon his present position as director of the Observatory of Athens, but from the state of the institution and the instruments, observations were not practicable for nearly a twelvemonth, so that it was only in November, 1859, that he was able to use, for his work on the moon, the 6-feet Plössl refractor, with which so much of the remainder of his long-continued labours has been completed.

In January, 1865, he formed the project of preparing a lunar chart, but his experience upon it for a considerable time was not satisfactory, for reasons which he details. In April, 1867, his final resolve was taken, and setting aside the results of his previous attempts at the construction of maps, he chose for his scale a 6-feet diameter, and, after the example of Lohrmann, arranged to subdivide his chart into twenty-five sections, as it has appeared. The work proceeded steadily until, in 1873 and 1874, those parts of it not strictly topographical and the colouring were completed.

In December, 1874, Prof. Schmidt proceeded to Berlin with his chart, for the purpose of exhibiting it to the authorities, astronomical and otherwise, in that capital. The interest which it excited here led to a fortunate combination of circumstances, through which the editing of the work was secured under the protection of the State, and the Crown Prince was instrumental in procuring the publication of the chart. At the suggestion of the Prince, the twenty-five sections were photographed in the department of the General Staff, and in April, 1875, Prof. Schmidt received from Field-Marshal Count von Moltke proofs of the same, which enabled him to bring the descriptive portion of his work to a close, while the original charts were retained at Berlin.

Such is a brief outline of the history of an astronomical undertaking that has occupied a lifetime. We must refer the reader to the explanatory volume for further interesting particulars of its progress and vicissitudes while under construction, at the many stations where its talented and indefatigable author has been located—from Altona to Naples.

NOTES

MORMONISM, whatever we may think of it as an institution, is so far in harmony with the times as to appreciate the value of scientific investigation; and its leaders seem to be heartily desirous to do what they can to further its interests. A recent number of the *Deseret News*, the leading organ of the Church party in Salt Lake City and Utah Territory, contains an account of the reception by President John Taylor, the successor to Brigham Young, of Dr. Thorpe, of the Yorkshire College, Leeds. Dr. Thorpe, accompanied by Dr. Schuster and Mr. Haskins, of St. John's College, Cambridge, is making a series of magnetic observations across the American Continent along the line of the Union Pacific Railroad, and Salt Lake City was selected as one of the stations. The president evinced considerable interest in the work, and showed a great desire to be informed respecting its character and objects. He offered to assign any spot within the city which might be deemed most suitable for the observations to the party, placed the transit instrument in the Tabernacle yard at their service, and suggested the laying of a special wire from his private telegraph office to the observatory for the purpose of exchanging time-signals with Prof. Safford, who is determining longitudes at Lieut. Wheeler's base station at Ogden. With such facilities the magnetic elements of Salt Lake City ought to be accurately known.

PROF. STRUVE, director of the Pulkova Observatory, is leaving Russia for a visit to Western Europe, for the purpose of giving directions for the construction of a new great refractor for the Pulkova Observatory. The old refractor, which some time ago was one of the best in the world, is now behind those of Washington, Chicago, and Gateshead (Mr. Newall's Observatory), and the Pulkova Observatory, according to the will of its founder, the Emperor Nicholas, should be maintained superior to all other observatories in that direction.

WE regret to announce the death, on August 15, at Kiel, of Prof. Emil von Asten, of the Pulkova Observatory, at the early age of thirty-six years. A pupil of Argelander, he is known by several remarkable researches,—as the investigation into the orbits of Uranus, and especially by his researches into the motion of Encke's comets with regard to the existence of a resisting medium. After ten years' study of the subject, he published a series of "Memoirs," in which he proved the existence of a medium, and showed why its influence could not be observed on other comets, as, for instance, that of Faye. His "Memoirs" have given rise, as is known, to one of those remarkable suggestions of Prof. Mendéleeff, as to the physical properties of this medium. Prof. Asten was, besides, one of the most valuable calculators of our time, and many of the Pulkova observations were reduced and calculated by him, or under his direction. His work on the sum of temperature, necessary for the development of several plants of the flora of St. Petersburg, was done during his leisure hours, as well as his discussions on the philosophy of Schopenhauer and Hartmann, of whom Prof. Asten was an admirer.

M. FIZEAU, the present president of the Paris Academy of Sciences, has been appointed to the Bureau des Longitudes, to fill the place vacated by the death of M. Leverrier.

WE have received the programme of a singular propaganda which seems to have been suggested by the recent opening up of the East to Western influences, and to which we cannot but wish all success. The circular is issued by M. C. Constant, of Smyrna, a member of the Asiatic Society of Paris, and his scheme is to form a society for the publication in Armenian of cheap popular scientific works, as one of the best means of enlightening and developing the people of the East, and of forming a bond of sympathy and union between those of all creeds. It is wished to implant in the East the great principles of the Experimental School, which form the greatness of the West. Special attention will be given to anthropology and the social sciences, which constitute the great problems of the age. The Eastern peoples are at a turning-point in their career, M. Constant says, and they ought to be prepared for the only definitive conquest to which they will submit sooner or later, "the conquest of science, that first European power." The proposed "Eastern Scientific Library" will be begun by the publication of an introductory volume treating of the positive method and its history; it will be a summary exposition of the intellectual evolution of humanity, from pre-historic times to the present. M. Constant makes appeal to the scientific societies of Europe for aid in this enterprise, and communications should be addressed to him as above.

THE Iron and Steel Institute holds its summer meeting at Paris this year, on September 16, 17, and 18, at the rooms of the Société d'Encouragement, 44, rue de Rennes. Besides the Introductory Address by the President, Dr. C. W. Siemens, papers will be read by Prof. Jordan, Paris, On the Mineral Resources of France; by Prof. Richard Akerman, Stockholm, On Some Studies Relative to the Present State of the Iron and Steel Manufacture, made at the Paris Exhibition; by Mons Euverte, Terre Noire, On Homogeneous Steel; by Danie Adamson, Manchester, On the Mechanical and other Properties of Iron and Mild Steel; by Mons. Marché, Paris, on Certain

Aspects of the Steel Manufacture; by J. S. Périssé, Paris, On the Ponsard Furnace for the Manufacture of Steel; by Sydney G. Thomas and Percy C. Gilchrist, Blenavon, on the Elimination of Phosphorus from Pig Iron in the Bessemer Converter; by R. P. Rothwell, New York, On the Low and Strong Water Gas Processes. Visits have been arranged for to the works of Creuzot, of Terre Noire, and of Hayange, Lorraine.

The scientific facilities of Zürich are to be increased by the erection of a magnificent new chemical laboratory for Prof. Victor Meyer. For this purpose the cantonal government has granted an ample site and the sum of 600,000 francs, which amount will be increased by appropriations from the city. Prof. Meyer, although but 30 years of age, is one of the most popular and well-known professors of chemistry of the present day, and his present laboratory is thronged with students of various nationalities.

We intimated some time since that a wealthy Danish brewer had set aside the sum of a million Danish crowns for the support of a laboratory in which to carry on scientific research. The first report of work done in this laboratory has just been issued under the title of "Meddelelser fra Carlsberg Laboratoriet" (Copenhagen, Thieles Bogtrykkeri). It is in Danish, with an abstract appended in French. The founder of the fund, from the application of which so much of scientific interest and technical value may be expected, is Mr. J. C. Jacobsen, a Danish gentleman who owns a large brewery in the neighbourhood of Copenhagen, and who is well known and honoured in his own country for his patriotism and for his intense love of science and art. The Carlsberg endowment is only the last of a series of munificent gifts to his country, or rather to the whole civilised world. The fund itself, as we have said, consists of one million Danish crowns, or about 56,000*l*. English. This sum is vested in the hands of five persons, who are nominated by the Danish Royal Academy of Sciences. A portion of the annual revenue is to be expended in keeping up the splendid laboratories attached to the brewery, in which chemical and physiological researches are carried on with a view to establishing as complete a scientific basis as possible for the great industries of brewing and malting. The other portion will, after the death of the donor and his wife, be expended in the advancement of the various natural sciences, mathematics, philosophy, history, and philology. In the administration of this latter portion much latitude is very properly allowed to the trustees of the fund, who will be enabled to apply it in almost any way they think proper. It becomes, in fact, a veritable research fund for all branches of science. The statutes of the fund will well repay a careful examination. The endowment has now been in force for something like two years, and the report embodies the results obtained in the laboratory during that period. The papers are of different degrees of value and interest, but on the whole form a very respectable contribution to our knowledge of the subjects on which they treat. A correspondent writes that last year he had the opportunity of inspecting the magnificent laboratories of Carlsberg, and was much struck with the complete and luxurious manner in which they are fitted up, and with the good style of work that was being carried on in them. The Report contains papers on the following subjects:—"On the rotatory power which beer-wort exercises on polarised light, and on its variations during fermentation," "Estimation of extract," and "Estimation of alcohol in beer," by M. J. Kjeldahl; "Researches on some factors which affect the propagation of the low yeast of *Saccharomyes cerevisiæ*;" "On the influence which the introduction of atmospheric air into fermenting wort exercises on fermentation;" and "Researches on the influence of temperature in the production of carbonic acid on barley germinating in darkness," by M. R. Pedersen.

Mr. F. A. Ober, who has been engaged for several years in prosecuting investigations into the ethnology and archæology of the West India Islands, under the direction of the Smithsonian Institution, reached Martinique in the beginning of July, where he proposes to continue his labours. He has already explored the islands of Dominica, St. Vincent, Santa Lucia, Antigua, and Tobago, and has sent home a very good collection of the birds of these islands, including quite a number recently described by George N. Lawrence as new to science. He has also supplied many archæological objects of considerable interest. A list of the birds of Dominica and St. Vincent, prepared by Mr. Lawrence, is published in the *Proceedings* of the National Museum at Washington, and the notices of the remaining islands will soon appear in the same journal. Mr. Ober expects to return to the United States in September or October next.

A new meteorological society is in way of formation at St. Petersburg; its special aim will be the extension of meteorological observations in Russia.

The committee of the Liebig Monument Association at Munich have given their decision regarding the various models sent in for competition. The first prize (100*l.*) was awarded to the sculptor, Herr M. Wagmüller, of Munich, and the second (75*l.*) to Prof. Begas, of Berlin.

The International Association against the pollution of rivers, the soil, and the air, will hold its second meeting at Cassel on September 9 and 10, *i.e.*, two days before the meeting of the Association of German Naturalists.

The general meeting of the United German Societies of Archæology and History will take place at Marburg on September 15-19.

Among the subjects expected to be discussed at the Social Science Congress at Cheltenham, October 23-30, are the expediency of increasing the number of universities in England, and the desirability of establishing free primary schools throughout the country.

The Exhibition of Sanitary Appliances and Articles of Domestic Use and Economy, held in connection with the Autumn Congress of the Sanitary Institute of Great Britain, will take place at Stafford, from the 2nd to the 19th of October next.

At Chalons-sur-Saone a committee has been formed for the erection of a monument in memory of Joseph Nicéphore Niepce.

In the Fourth Report of the Underground Water Committee of the British Association, read at Dublin, Mr. De Rance comments on the scientific and practical importance of the continuance of the experimental well boring just carried to a depth of 1,000 feet, through the pebble beds of the new red sandstone, for the Liverpool Corporation, by Messrs. Mather and Platt. The boring is 26 inches diameter, and if continued, would not only prove the water-bearing capabilities of the new red sandstone, but its thickness, the character of the underlying rock, the nature of the coal-measures beneath, and the possible existence of productive coal-seams, and other questions of not merely local, but national importance.

Among the scientific novelties of the German book trade during the past month we notice the following works:—"Praktische Anleitung zum Bestimmen der Käfer Deutschlands und der Schweiz," J. Hoffmann (Stuttgart); "Vier Jahre in Afrika," E. von Weber (Leipzig); "Die Messung des Feuchtigkeitsgehaltes der Luft," Dr. K. Koppe (Zürich); "Theorie der Bewegung des Wassers in Flüssen und Canälen," O. Meissner (Bamberg); "Leitfaden der Physik," R. H. Hofmeister (Zürich); "Lehrbuch der vergleichenden Anatomie," Prof. A. Nuhn (Heidelberg); "Handbuch der Erdkunde," G. A. von Klöden (Berlin); "Beiträge zur Kenntniss der Orchideen," H. G. Reichenbach, Bd. 3 (Leipzig); "Die Alpenpflanzen nach der Natur gemalt," J. Seboth (Prague); "Die Rose; Behandlung, Zucht, und Pflege," Dr. A. Oehlkers (Leipzig); "Flora im Garten und Hause," H. Jäger (Hanover); "Anatomisch-physiologischer Atlas der Botanik," Dr. A. Dodel-Port (Zürich); "Lehrbuch der Botanik," Dr. C. Baenitz (Berlin); "Die Vögel," D. Kompfe (Leipzig); "Die Raubvögel Deutschlands und des angrenzenden Mitteleuropas," O. von Riesenthal (Cassel).

At the recent Congress of Hygiene in Paris the National Health Society of London had three representatives. The National Health Society is composed of those interested in sanitary work of both sexes, and deals exclusively with matters affecting the sanitary condition of all classes, leaving medical questions to the doctors, and endeavouring to accomplish "prevention" rather than "cure."

Two guides and two German tourists recently lost their lives in ascending Cevedole, a mountain of the Tyrolese Alps. One of the victims was Dr. Sachs, the preparator of Prof. Dubois Reymond.

We would direct the attention of our provincial readers to a useful article in this month's *Science Gossip* on "How to Start a Natural History Society." The directions are thoroughly practical and sensible.

One of the most interesting handbooks in connection with the Paris Exhibition is that to the British Indian Section, by Dr. Birdwood, the second edition of which is before us. It contains a great deal of geographical, antiquarian, and historical information, the Introduction treating of the geographical and physical features of the Indo-Germanic shore, on the Settlement of the Old World by the Human Race, the Antiquity of the Indian Trade, Routes of Indian Commerce, and of the Master Handicrafts of India. An Appendix contains much useful statistical information, and the handbook ought to be of permanent value.

The *Cologne Gazette* gives details of the earthquake of August 26, as observed in that city. The earthquake passed from east to west. About three minutes to 9 A.M., a shaking and rising and falling of the ground, after the fashion of waves, began to be felt, and increased more and more until buildings rocked to and fro in a formidable manner. Tables, chairs, beds, stoves, &c., set up a dancing movement, which became so strong and tremulous that figures and ornaments resting upon them were knocked against one another and thrown down. Several persons declare that they felt as if an electric current were passing through their legs, and as if the earth were withdrawn from under their feet, and a sudden giddiness came over them. In some places the pendulums of the clocks ceased to beat. Towards the end of the vibration, which lasted about seven or eight seconds, there was heard a dull sound like the roll of distant thunder. Several persons state that soon after the first series of shocks there was a second but much lighter one. There was another (a third) shock at 11.10 A.M., which was not equal to the first either in severity or duration. It may be remarked that no fall of the barometer was observed to follow the earthquake. An interesting observation was made in the neighbourhood of Muhlheim on the Rhine:—"A very distinct curl was seen to cross the river obliquely, from south-south-west towards north-north-east, quite undisturbed by the current, while at the same time a deep roar of the water was heard. Even still (the afternoon of August 27) there is an audible rattling of the panes of glass, and domestic utensils, if close together, knock against one another, while a dull rolling sound is heard." The earthquake wave was felt from Hanover and Utrecht to Mayence in the south. The motion was sensible at Brussels and Liége, as well as Bonn, Cologne, and Aix-la-Chapelle. Some papers state that a seismograph at Cologne has proved the shocks to have had a duration of three-quarters of a minute.

In the night of August 21–22 a meteor was seen to fall on a house in the vicinity of Butzbach, a small town in Hesse. On the following morning a small polished dark stone was discovered on the spot, and will be sent to the Berlin Museum.

In consequence of the annexation of Alsace and Lorraine, the piscicultural establishment of Hüningen, which had been founded by the French government in the year 1852, passed into the hands of the German government, which, since 1871, has bestowed the greatest attention on the establishment, and spared no cost to make it as efficient as possible. Recent statistical reports state that the establishment, while under German control, has sent away no less than 23,500,000 ova of various species of fish, such as trout, salmon, carp, roach, &c. Some two million young salmon have been placed in the Rhine, and a similar number of other useful fish into the rivers of Upper Alsatia. The result has been that fish are now plentiful in those waters, that the rents paid for fisheries have considerably risen, that salmon can now be bought at about 6*d.* per pound in that neighbourhood, and that the time seems to have returned when fish was in those districts a cheap food for the people.

A notable improvement in watches is reported from Chaux de Fonds, Switzerland. By a peculiar process the figures on the dial are rendered luminous, so that if exposed once during the day to the sunlight they remain phosphorescent and visible throughout the night. Preparations are being made for the production of these watches on a large scale.

The International Association for obtaining a uniform decimal system of weights, measures, and coins is holding a Congress in Paris at the Trocadéro this week. Though an unofficial gathering, several governments have sent representatives to it. On Monday, M. Tresca gave a survey of the question all over the world, and pointed out that the only countries which have as yet made but little progress are England, the United States, and Russia. It is thought the Congress will be able to agree on the general adoption of the metric system for weights and measures, and perhaps on a 10f. gold piece, nine-tenths fine, as an international unit.

At the Birmingham Natural History and Microscopical Society's meeting on Tuesday last, Mr. Bolton exhibited the polyzoon, *Cristatella mucedo*, and the grouped rotifer, *Lacinularia socialis;* Mr. Slatter exhibited the polyzoa, *Fredericella sultana* and *Paludicella ehrenbergi;* and Mr. Levick exhibited the infusoria, *Actinosphærium eichornii* and *Spirostomum ambiguum*.

An interesting series of experiments was lately instituted by Herr Muntz, in order to determine whether the living cells of the more highly organised plants, when entirely cut off from oxygen, are equally able, with the cells of fungi, to produce alcoholic fermentation. For this purpose he experimented with a variety of plants, beet, maize, cabbage, chicory, portulacca, nettles, &c. From each kind three equally healthy plants were selected. One was left in the open air, and the other two were placed with the accompanying soil, under capacious bell-glasses, containing an atmosphere of nitrogen, the oxygen being removed by pyrogallic acid. After a lapse of from twelve to forty-eight hours, they were removed from the glasses. One was placed in the open air in order to be certain that the power of development was retained after the imprisonment, and the other was cut off above the ground, distilled with water, and tested for alcohol. In all cases the plants which had been in an atmosphere free from oxygen showed appreciable quantities of alcohol, amounting often to a thousandth of the entire weight of the plant, while no traces could be detected in the plant which had remained in the air during the same time. In this connection we should mention a detailed account in the *Journal für Prakt. Chemie*, of experiments instituted by Prof. Gunning, of Amsterdam, to settle the question of the ability of bacteria to exist in media free from oxygen. They consisted in inclosing in glass tubes easily decomposable substances, such as raw flesh, green peas, &c., infecting with a drop of a mixture of decayed peas and white of egg, which contains nearly all varieties of bacteria, —closing the tubes by fusion after freeing entirely from oxygen, and allowing to stand for periods ranging from four months to two years. The results of all these experiments showed that by exclusion of oxygen the bacteria were completely destroyed, the putrefaction being entirely stopped, and not continuing afterward, on the admission of filtered air free from bacteria.

THE appearance of phylloxera at Sachsenhausen, near Frankfort-on-the-Main, is officially reported. The appearance of the Colorado beetle at Jaratschewo in the district of Schrimm in the Prussian province of Posen is also reported.

AT Oderberg, in Austrian Silesia, we learn from a report to the Imper. Geol. Instit., March 19, some pile-structures, or rather the floors associated with them, were found in digging for the foundations of gas-works. Two rows of parallel, horizontal oak stems, 60 to 90 centimetres thick, 3½ metres apart, were met with. They were covered with peat, and a quantity of hazel nuts and seed of cereals lay under the peat. At 3 metres deeper more hard wood was found.

PROF. A. M. MAYER asks us to make the following corrections in his article on "Floating Magnets" in NATURE for July 4 (vol. xviii.):—On p. 258, 2nd col., line 13 from bottom, delete the sentence beginning "This is the only instance," &c. On p. 258, 2nd col., line 11 from bottom, for "This nucleus of 20 cannot be formed without the circumposed magnets as in Fig. 20," read "This nucleus can be formed without the circumposed magnets." On p. 259, 2nd col., line 11 from top, for "1*a*" read "8*a*."

THE additions to the Zoological Society's Gardens during the past week include a White-lipped Peccary (*Dicotyles labiatus*) from South America, a Golden Agouti (*Dasyprocta aguti*) from Guiana, presented by Mr. G. H. Hawtayne, C.M.Z.S.; a Bonnet Monkey (*Macacus radiatus*) from India, presented by Capt. Clarke; a Cape Bucephalus (*Bucephalus capensis*) from South Africa, eleven Spinose Lizards (*Agama colonorum*) from North-West Africa, received in exchange; a Common Marmoset (*Hapale jacchus*) from South-East Brazil, a Grey Parrot (*Psittacus erithecus*) from West Africa, deposited; a Red Deer (*Cervus elaphus*) born in the Gardens.

THE BRITISH ASSOCIATION

REPORTS.

Report of the Committee on Mathematical Tables.—Mr. James Glaisher has undertaken the calculation of the factor tables for the fourth, fifth, and sixth millions, similar to Burckhardt's and Dase's. Burckhardt's tables (Paris, 1814–1817) contain the least factor of every number not divisible by 2, 3, or 5, from unity to three millions, and Dase's tables (Hamburg, 1862–1865) give similar information for the seventh, eighth, and ninth millions. Dase undertook the calculation at the suggestion of Gauss, who urged him to begin at 6,000,000, as the three millions between 3,000,000 and 6,000,000 had been calculated by Crelle and presented to the Berlin Academy, and Gauss did not doubt that they would be published sooner or later. It appears, however, that the Berlin manuscript is too inaccurate to admit of publication, and therefore, in order to fill up the gap, it is necessary to undertake the calculation again, as the nature of the work is such that errors committed do not readily admit of discovery and correction. Mr. Glaisher has completed the portion from 3,000,000 to 4,039,500, which is ready for press, and the remaining two millions are being actively proceeded with.

Report of the Committee on Oscillation Frequencies of the Rays of the Solar Spectrum.—Mr. G. J. Stoney explained the objects of the Committee, and stated that in the table now published the oscillation frequencies of the principal rays of the visible part of the solar spectrum have been computed from Angström's determinations of their wave-lengths in air, combined with Ketteler's observations on the dispersion of air. Such a table and its accompanying map afford the most assistance that can be given towards the detection of harmonic relations, for rays that are harmonically related are therein represented in the simplest form practicable; in the table by an arithmetical series of the same type as the series of natural numbers, where the common difference is equal to the first term; and on the map by a series of equidistant lines.

Report of the Committee on Luminous Meteors.—Mr. James Glaisher read this report, which consisted of (1) an account of meteors doubly observed, with a table showing their real paths, velocities, and radiant points; (2) a detailed account of large meteors; (3) general directions and instructions to observers for recording meteors and aërolites, by Prof. A. S. Herschel; (4) the discussion of a meteor of short period (viz., the fireball of November 27, 1877, for which a short period, such as, say, 500 days, is found), by Capt. G. L. Tupman; (5) an elaborate analysis of the constituents of masses of meteoric iron and stone-falls, by Dr. W. Flight.

Report of the Committee on Underground Temperature.—Prof. J. D. Everett read this report. The principal novelty was the proposal to make observations in filled up bores by a thermo-electric method. Two wires, one of iron and the other of copper, each covered with gutta-percha, were to be joined at both ends, where a portion would be left uncovered. One junction would be buried in the bore, while the other would remain above ground available for observation. A current would flow through the circuit composed of these two wires whenever the two junctions were at unequal temperatures, and the observer would immerse the accessible junction in a basin of water containing a thermometer, and would regulate the temperature of the water until he found by a galvanometer that no current passed. He would then know that the temperature of the water as indicated by the thermometer was the same as that of the buried junction.

SECTION A.—MATHEMATICAL AND PHYSICAL.

Researches made at Dunsink on the Annual Parallax of Stars, by Prof. R. S. Ball.—The author stated that it was, of course, well known that up to the present time no parallax of a star had been detected which exceeded a single second of arc. In the great majority of cases the parallax was very much less, even if it was appreciable. But when they reflected that not one star out of ten thousand had yet been regularly examined for parallax it was obvious that it would be rash to conclude that there were no stars nearer to us than those of which the distance was already known. In selecting objects for investigation of annual parallax astronomers had generally chosen those stars which were exceptional either on account of their brilliancy or the largeness of their proper motions. Either of these features in a star afforded, doubtless, a *primâ facie* presumption that the star was comparatively near the earth. On the other hand, even Sirius had, according to Gylden, a parallax of only one-fifth of a second, while for another star, which had the enormous proper motion of seven seconds annually, Brunnow had found a parallax not greater than one-tenth of a second. The presumptions of nearness founded on great brilliancy or great proper motion, except, perhaps, in the case of 61 Cygni, could hardly be said to be justified by the results of observation. There was, however, a presumption that some of the red stars might be near the earth, and that some of the variable stars were really small, and therefore, as they were visible, comparatively near us. Before commencing the observations described and tabulated in the paper a working list was formed, containing red stars, variable stars, stars with large proper motions, and several other stars which were chosen on different grounds. The observations had the special object of seeing whether any of them had a large parallax. Forty-two different objects had been selected from this working-list, but in almost every case the observations con-